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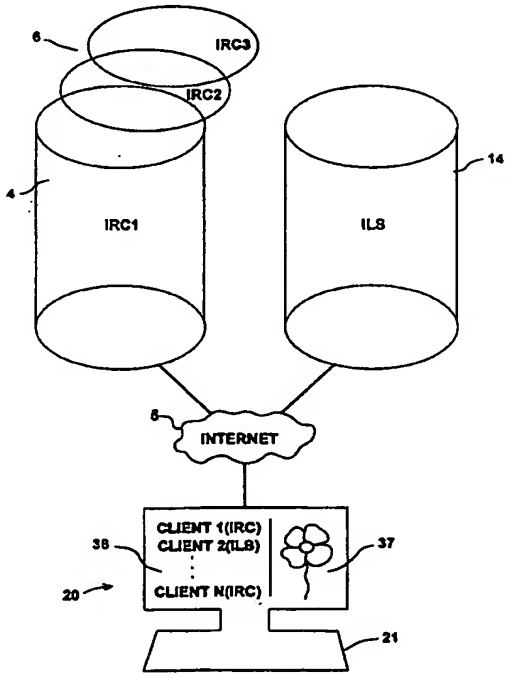
(54) Title: SYSTEM AND METHOD FOR GENERATING A CHAT ROOM OVER A COMPUTER NETWORK

(57) Abstract

A client (21) generated chat room (20) which does not depend on any single chat room server (14) or servers (6) and a method for producing a client (21) generated chat room (20) over a computer network (5) is provided. The client (21) generated chat room (20) allows the user of a client (21) co-presence with users (36) connected to chat rooms of different servers of the same type (6) and/or to chat rooms of different servers type (6, 14).



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SYSTEM AND METHOD FOR GENERATING A CHAT ROOM OVER A COMPUTER NETWORK

FIELD OF THE INVENTION

The present invention generally relates to chat rooms over computer networks, such as the INTERNET, and more particularly to client generated server independent chat rooms over a computer network.

BACKGROUND OF THE INVENTION

In the last few years, the use of computers over wide and local area networks, both within organizations (INTRANET networks) and by the public (INTERNET network) has dramatically increased. As more and more information is accumulated in network computers and databases, the ability to enjoy the information spread out in the network has decreased, therefore network browsers and search engines, such as the Browser provided by Netscape of California, US and the ALTA VISTA search engine provided by Digital of Massachusetts, US were developed to allow individual users to browse the INTERNET, thereby making the information on the network more accessible. However, these browsers and search engines fail to address another function computer networks can provide, namely that of chat rooms, which provide virtual places where a plurality of people virtually co-present in the chat room can share and exchange a variety of information.

In state of the art chat rooms, such as the ones provided on the Internet Relay Chatrooms (IRC) servers and illustrated in Fig. 1, a client 2 is able to connect to a chat room 3 stored in a server 4 via a computer network 5. In the illustrated example, the server is an IRC servers network of three servers jointly referenced 6, the network is the INTERNET and the client is a PC connected to the INTERNET. In operation the user operates its client 2 to connect to chat

room 3 located in server 4, in order to view the user list 8 . Other servers, such as the Internet Location Server (ILS) operate in the same fashion.

Since state of the art chat rooms are server(s) dependent they are limited in their performance and use. For example, as illustrated in Fig. 1, ILS server clients cannot join an IRC server chat room and vice versa.. This results in two separate chat rooms having two different plurality of users and thus requiring the user to run two different clients as illustrated by client lists 8 and 18 although both plurality of clients are interested in the same content 9.

It will be appreciated that while Fig. 1 illustrates the operation of prior art chat rooms on servers of different type, i.e. IRC and ILS, the same also applies to different servers of the same type, i.e. if both servers 4 and 14 were of the IRC or the ILS type.

SUMMARY OF THE INVENTION

According to one aspect, the present invention is a client generated chat room.

The term client refers herein throughout the specification and claims to any kind of application running on a computer connected to a computer network, in the preferred embodiment to the INTERNET. The term user refers herein to the person using the client.

The term chat room refers herein throughout the specification and claims to a virtual space in which a plurality of users co-present in the chat room are capable of exchanging any type of information, such as audio, video, textual, graphic and any combination therebetween.

According to a further aspect, the present invention provides a client generated chat room which does not depend on any single chat room server or servers.

In a further aspect of the present invention, the client generated chat room of the present invention allows the user of that client co-presence with users connected to chat rooms of different servers of the same type (e.g. different IRC servers) and/or to chat rooms of different servers type (e.g. IRC and ILS).

According to one aspect of the invention, there is provided a method for producing a client generated chat room over a computer network. The method includes the steps of:

a. executing in the client, an application enabling selection of a chat room;

b. selecting the chat room, the selection triggers connection to users in at least two independent servers of the same type or of a different type; and

c. adding the users from the at least two independent servers to the client generated chat room.

Furthermore, in accordance with an embodiment of the invention, the application is implemented in the client or in a server in the computer network. The computer network is the INTERNET.

Furthermore, in accordance with an embodiment of the invention, the triggering activates a chat room URL which points to a chat room in an HTTP server.

Furthermore, in accordance with an embodiment of the invention, the two independent servers are IRC or ILS servers or a combination therebetween.

In addition, in accordance with an embodiment of the invention, the step of adding also including the step of removing duplicate users from the two independent servers.

Furthermore, in accordance with an embodiment of the invention, the chat room includes a users list and shared content by the users currently co-present in the chat room.

In addition, in accordance with an embodiment of the invention, the step of selecting includes selecting the chat room through a multi level menu.

Additionally, in accordance with an embodiment of the invention, there is provided a chat room produced by the method of the invention.

BRIEF DESCRIPTION OF THE DRAWINGS

The present invention will be understood and appreciated more fully from the following detailed description taken in conjunction with the appended drawings in which:

Fig. 1 is a schematic pictorial illustration of prior art chat rooms;

Figs. 2A and 2B are a schematic pictorial illustration of the chat room of the present invention according to one embodiment and a method of generating same, respectively;

Figs. 3A - 3C are three exemplary displays of the chat room of Fig. 2; and

Figs. 4A - 4D are four non limiting exemplary embodiments of the chat room of the present invention.

DETAILED DESCRIPTION OF THE PRESENT INVENTION

Reference is now made to Figs. 2A and 2B which illustrate a client generated chat room 20 according to one embodiment of the present invention and the method of generating and utilizing same. As illustrated in Fig. 2A, in which similar elements to Fig. 1 are referenced by the same reference numerals, the client generated chat room of the present invention is a universal chat room, that is, it is characterized by co-presence of users utilizing different directory servers. In the illustrated example chat room 20 is virtually located in client 21 and shared by users of both IRC servers 6 and ILS server 14 connected to client 21 via the INTERNET 5. In operation a user operating client 21 connects to the INTERNET 5 (step 22) and executes (step 23) a universal chat room application capable of generating client generated chat rooms. In a preferred embodiment, this application is activated from the INTERNET Phone Application for multimedia communication over the INTERNET, commercially available from VocalTec Ltd. of Herzelia, Israel.

Referring also to Figs. 3A - 3C, after executing the chat room application in step 24 the user receives a multilevel menu which includes a main menu 31, a main index 32, topics 33, chat room icons 34, chat room title name and status 35, a list of the chat room users 36 and shared content 37, indicated by chat room file content, and an indication of other chat rooms in which the user is present 38. These are ordered in an hierarchy, from menu 31 which is at the highest level, down to the chat room user list 36 and shared content 37 (Fig. 3B).

In operation, after a selection is made through the menu, a chat room URL is activated from the INTERNET browser or from any other application. The file pointed to by the URL is retrieved from an HTTP server or from any other place, such as a hard disk in a PC. The file uses HTML syntax and can be

embedded in an HTML file without distracting standard INTERNET browser displays when they display such a file.

In a preferred embodiment, the file is parsed and fields describing the chat rooms are read. If the LOCATION field (all fields refer to the file format described herein below) points to another chat room file then this file is also retrieved in a similar way and the fields from the new file are added to the description, overriding the old fields if the same fields are found. This continues until the last chat room file does not point to another chat room file. A virtual chat room icon is retrieved from the URL in the ICON field. If the SRC field points to an HTML content file then this file is retrieved from an INTERNET server or another place and displayed as the chat room content. If the SRC field does not exist then the chat room file is used as the content file.

In steps 25 through 27, the user selects a chat room by multiple selection through the hierarchy. For example, after the user has received the five level menu of Figs. 3A -3C, the user then selects a topic (step 25). An icon within the topics (step 26) is used to select a sub-topic, such as sixties music, as in the example of Fig. 2 or a computer game, as shown in the example of Figs. 3B and 3C (step 27). This selection triggers the generation of the specific client generated chat room and the user receives a current user list 36 and a current shared content 37 (step 28) of the client generated chat room 20.

In the preferred embodiment, the client connects to the server described in the chat room file SERVERS field, which also contains the server type, for example IRC or ILS. The SERVER_URL field can point to a file containing a list of IRC servers that form an IRC network. In this case, the server list file is also retrieved and one of the servers is used as the IRC server.

When connected to the IRC network, the ROOM field is used as the name of the IRC room to join. The PRIVATE field is used in this case to specify if the IRC chat room is private or public.

The list of users is retrieved from the IRC server chat room or from the ILS server and translated from native server format to a uniform format which is identical for all servers. The user list is then filtered according to the rules in the FILTER field.

If another set of servers and related fields (ROOM, PRIVATE, FILTER) exists in the chat room description, then the same process is executed from this server. All users from all servers are merged into one list, duplicated users are removed, and the list is displayed in the chat room user list. For IRC rooms, the list is updated whenever the server informs the client about users joining or leaving the rooms.

It is a particular feature of the present invention that, unlike prior art chat rooms, the chat room 20 of the present invention is server independent. It is located in client 21, in the non limiting example of Fig. 2A, and it unifies, that is it enables co-presence of the user with users connected to different directory server types (Fig. 2A) and also of different non-connected server(s) of the same type (e.g. two non connected ILS servers).

A preferred non limiting, client based, server independent, chat room file format is now described for a client generated chat room in the INTERNET as described above.

A link (a pointer) to a chat-room is an URL in the following format: "gold://hostname/path."

The link has the format of a standard INTERNET HTTP URL, and can be accessed using the Hyper Text Transfer Protocol (HTTP protocol). Thus, a

link to a chat room file can also have the form of a normal HTTP file pointer such as "http://hostname/path."

The retrieved chat room file will have a mime-type of text/html. It is also possible to use specific fields in the HTTP protocol to define this page as a gold page.

The chat room specific parameters syntax is defined such that it can seamlessly be included as part of a standard HTML page which can contain the Content for Content display of the chat-room 20. The chat room syntax is using standard HTML tags with values of the different parameters and properties of the chat-room.

The Properties of the Chat Room

The properties of the chat room can be defined as follows:

<GOLD NAME="chat-room-name"

SERVERS_URL="http://hostname/path"

Path to alternative file holding a list of servers to connect to.

SERVERS="type:name:port"

Alternative servers on same network, to provide backup or better access.

ROOM="room name" Specifies the room name on the above server.

FILTER=tag:"value";tag:"value"

The value is defined as a Regular Expression. The filtering is activated on the lists of users supplied by the above server and is operated on specific fields of the list according to the different tags and the corresponding values.

PRIVATE=0|1 Specifies if the room is private or public (displayed in rooms' lists or not)

ICON=URL of image

SRC="URL" Address of HTML containing the contents of the chat room. If this entry is missing, use this HTML page as the Content.

LOCATION="URL"

Any parameters in the previous page can be overriden by the parameters of the next file. New parameters are added to the chat room parameters. This is used mainly to reference a new server list that can be modified in a central location to enable frequent updates.

Location's can also be chained.

The properties (SERVERS_URL, SERVERS, ROOM, FILTER, and PRIVATE) may repeat themselves as many times as required for the sake of supporting different networks of servers of different types.

Not all properties have to be specified, and additional properties may be added.

Using the chat room application of the present invention, the syntax can be recognized. However, if the browser being used does not recognize the chat room syntax, an alternative message will be displayed. For example, the message could be any standard HTML message such as an Icon allowing the user to download the chat room application.

This HTML page can contain PICS information that specifies the 'rating' of the page and any other standard HTML elements.

Reference is now made to Figs. 4A - 4D which illustrate four different non limiting examples of client generated server independent chat rooms of the present invention.

Example A (Fig. 4A)

This example demonstrates a 'Music' chat room in some IRC network. Note that the room actually exists on the network:

<GOLD NAME="Music"
SERVERS="irc:iphone.vocaltec.com"
ROOM="Music"
PRIVATE=0
ICON="http://www.gold.vocaltec.com/images/music.jpg"
SRC="http://www.gold.vocaltec.com/images/music.htm">

The method of generating and utilizing the chat room of Fig. 4A includes the following steps:

1. Activate Chat Room URL by clicking on the Music image 41 in the HTML index;
2. Retrieve Chat Room file 42 pointed by URL from HTTP server 40;
3. Parse Chat Room file and read description fields;
4. Open Chat Room window and display the 'Music 43' title found in the Chat Room file GOLD_NAME field;
5. Retrieve chat room icon pointed by URL in ICON field from INTERNET 48 server and display it in joined chat room list as the chat room icon;
6. Retrieve HTML file 44 pointed by URL in SRC field from INTERNET server and display as the chat room content;
7. Connect to the IRC server 45 in the SERVERS field and join IRC 'Music' chat room 46 from ROOM field;
8. Get the chat room users from the IRC server and translate IRC users format to a uniform user format;

9. Display users 47 in the chat room users list;
10. Get update from the IRC server and update chat room users list when users join and leave the room.

Example B (Fig. 4B)

This example demonstrates a virtual 'Israel' chat room using an ILS server. Note that a virtual room is created from a much larger list of users on the server using a filter and that users with 'Adult' type are not included:

<GOLD NAME="Israel"
SERVERS="ils:ils2.microsoft.com"
PRIVATE=0
FILTER=Country:"Israel" UserType:"Adult"
ICON="http://www.gold.vocaltec.com/images/israel.jpg"
SRC="http://www.gold.vocaltec.com/images/israel.htm">

The method of generating and utilizing the chat room of Fig. 4B includes the following steps:

1. Activate Chat Room URL by clicking on the 'Israel' 51 image in the HTML index;
2. Retrieve Chat Room file 52 pointed by URL from HTTP server 50;
3. Parse Chat Room file and read description fields;
4. Open Chat Room window and display the 'Israel' 53 title found in the Chat Room file GOLD_NAME field;
5. Retrieve chat room icon pointed by URL in ICON field from INTERNET server 58 and display it in joined chat room list as the chat room icon;
6. Retrieve HTML file 54 pointed by URL in SRC field from INTERNET server 58 and display as the chat room content;

7. Connect to ILS server in the SERVERS field;
8. Get the users from the ILS server 55 and translate ILS users format to a uniform user format;
9. Display users 56 with Country property 'Israel' and with 'UserType' Property different from 'Adult' in the chat room users list.

Example C (Fig. 4C)

This example demonstrates the use of two different IRC networks used to create a virtual 'Music' room which includes users from two, not physically related, music chat rooms.

<GOLD NAME="Music"
SERVERS="irc:iphone.vocaltec.com"
ROOM="Jazz_Music"
SERVERS="irc:irc.mit.com"
ROOM="Rock_Music"
PRIVATE=0
ICON="http://www.gold.vocaltec.com/images/music.jpg"
SRC="http://www.gold.vocaltec.com/images/music.htm">

The method of generating and utilizing the chat room of Fig. 4C includes the following steps:

1. Activate Chat Room URL by clicking on the 'Music' 61 image in HTML index;
2. Retrieve Chat Room file 62 pointed by URL from HTTP server 63;
3. Parse Chat Room field and read description fields;
4. Open Chat Room window and display the 'Music' 64 title found in the Chat Room file GOLD_NAME field;

5. Retrieve Chat Room icon pointed by URL in ICON field from INTERNET server 65 and display it in joined chat room list as the chat room icon.
6. Retrieve HTML file 66 pointed by URL in SRC field from INTERNET server and display as the chat room content;
7. Connect to the first IRC server 67 and form IRC "Jazz Music" chat room 68. Connect second IRC 69 server which is in a different IRC network, in the second SERVERS field and join IRC 'Rock_Music' chat room 70 from the second ROOM field;
8. Get the "jazz music" chat room users 90 from the first IRC server 67 and translate IRC users format to a uniform user format;
9. Get the "rock music" chat room users 91 from the second IRC server 69 and translate IRC users format to a uniform user format;
10. Remove duplicate users and display users from both servers in the chat room users list.
11. Get update from both IRC servers, remove duplicate users, and update chat room users list when users join and leave one of the IRC rooms.

Example D (Fig. 4D)

This example demonstrates the use of both an IRC network and an ILS server to create a virtual 'Music' room which includes users from both IRC and ILS:

<GOLD NAME="Music"
SERVERS="irc:iphone.vocaltec.com"
ROOM="Music"
SERVERS="ils:music.microsoft.com"

PRIVATE=0

ICON="http://www.gold.vocaltec.com/images/music.jpg"

SRC="http://www.gold.vocaltec.com/images/music.htm">

The method of generating and utilizing the chat room of Fig. 4D includes the following steps:

1. Activate Chat Room URL by clicking on 'Music' image 71 in HTML index;
2. Retrieve Chat Room file 72 pointed by URL from HTTP server 73;
3. Parse Chat Room file and read description fields;
4. Open chat room window and display the 'Music' title 74 found in the Chat Room file GOLD_NAME field;
5. Retrieve chat room icon pointed by URL in ICON field from INTERNET 75 server and display it in joined chat room list as the chat room icon;
6. Retrieve HTML file pointed by URL in SRC field from INTERNET 75 server and display as the chat room content 76;
7. Connect to the first IRC server in the first SERVERS field and join IRC 'Music' chat room 78 from the first ROOM field;
8. Connect to the ILS server 79 in the second SERVERS field;
9. Get the chat room users 80 from the first IRC server 77 and translate IRC users format to a uniform user format;
10. Get the users 81 from the ILS server 79 and translate ILS users format to a uniform user format;
11. Remove duplicate users and display users from both servers in the chat room users list;
12. Get update from IRC server, remove duplicate users, and update chat room users list when users join and leave the IRC room.

It will be appreciated by persons skilled in the art that the present invention is not limited to what has been particularly shown and described hereinabove. Rather, the scope of the present invention is defined only by the claims that follow:

CLAIMS

1. A method for producing a client generated chat room over a computer network comprising the steps of:

   a. executing in a client, an application enabling selection of a chat room;

   b. selecting said chat room, said selection triggers connection to users in at least two independent servers of the same type or of a different type; and

   c. adding said users from said at least two independent servers to said client generated chat room.

2. A method according to claim 1 wherein said application is implemented in said client.

3. A method according to claim 1 wherein said application is implemented in a server in said computer network.

4. A method according to any of claims 1 - 3 wherein said computer network is the INTERNET.

5. A method according to claim 4 wherein said triggering activates a chat room URL which points to a chat room in an HTTP server.

6. A method according to claim 4 or 5 wherein said at least two independent servers are IRC or ILS servers or a combination therebetween.

7. A method according to any claims 1-6 wherein said step of adding also comprising the step of removing duplicate users from said at least two independent servers.

8. A method according to any claims 1-7 wherein said chat room includes a users list and shared content by said users currently co-present in said chat room.

9. A method according to any claims 1-8 wherein said selecting comprising selecting said chat room through a multi level menu.

10. A chat room produced by the method of any of claims 1 - 9.

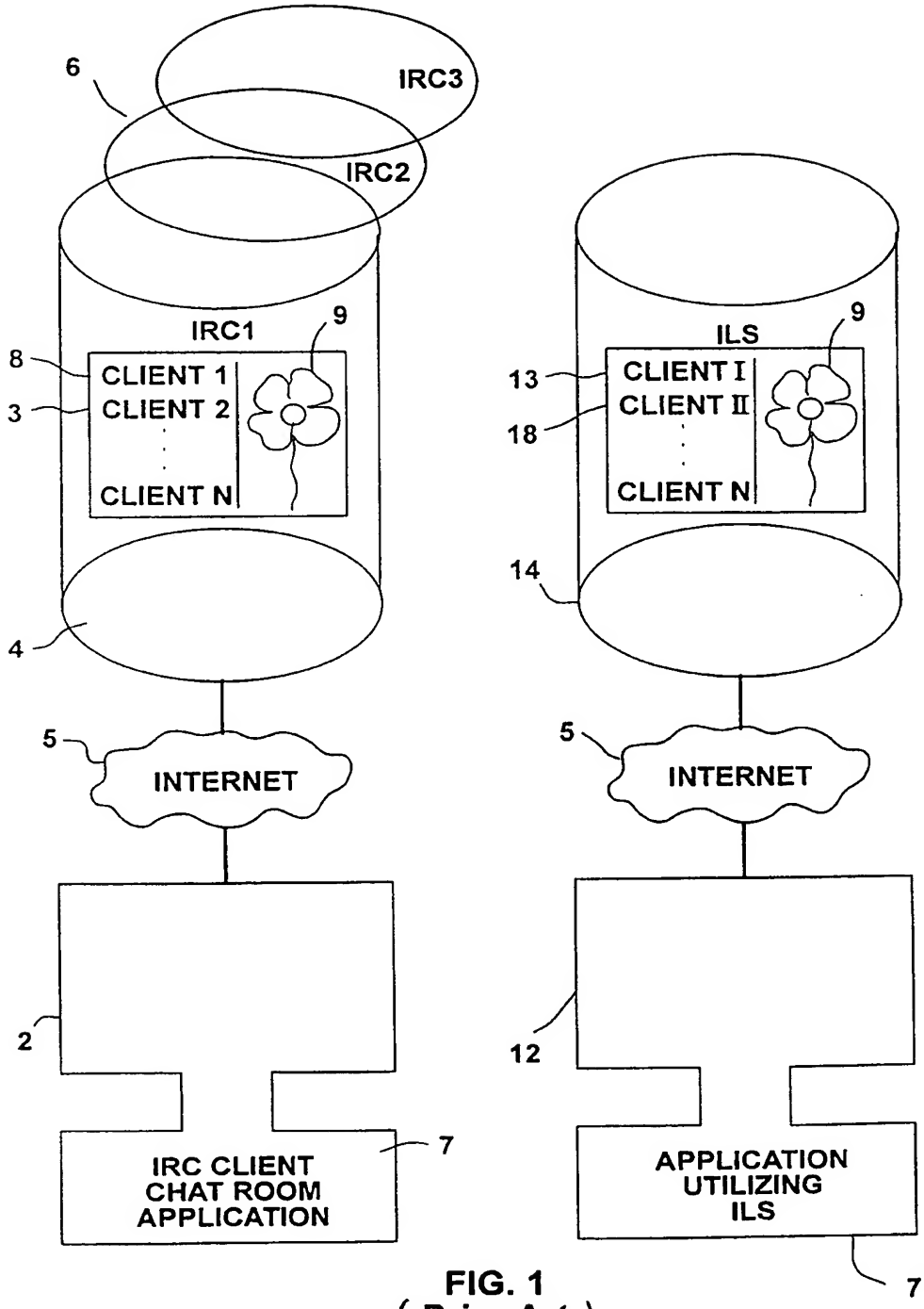


FIG. 1
(Prior Art)

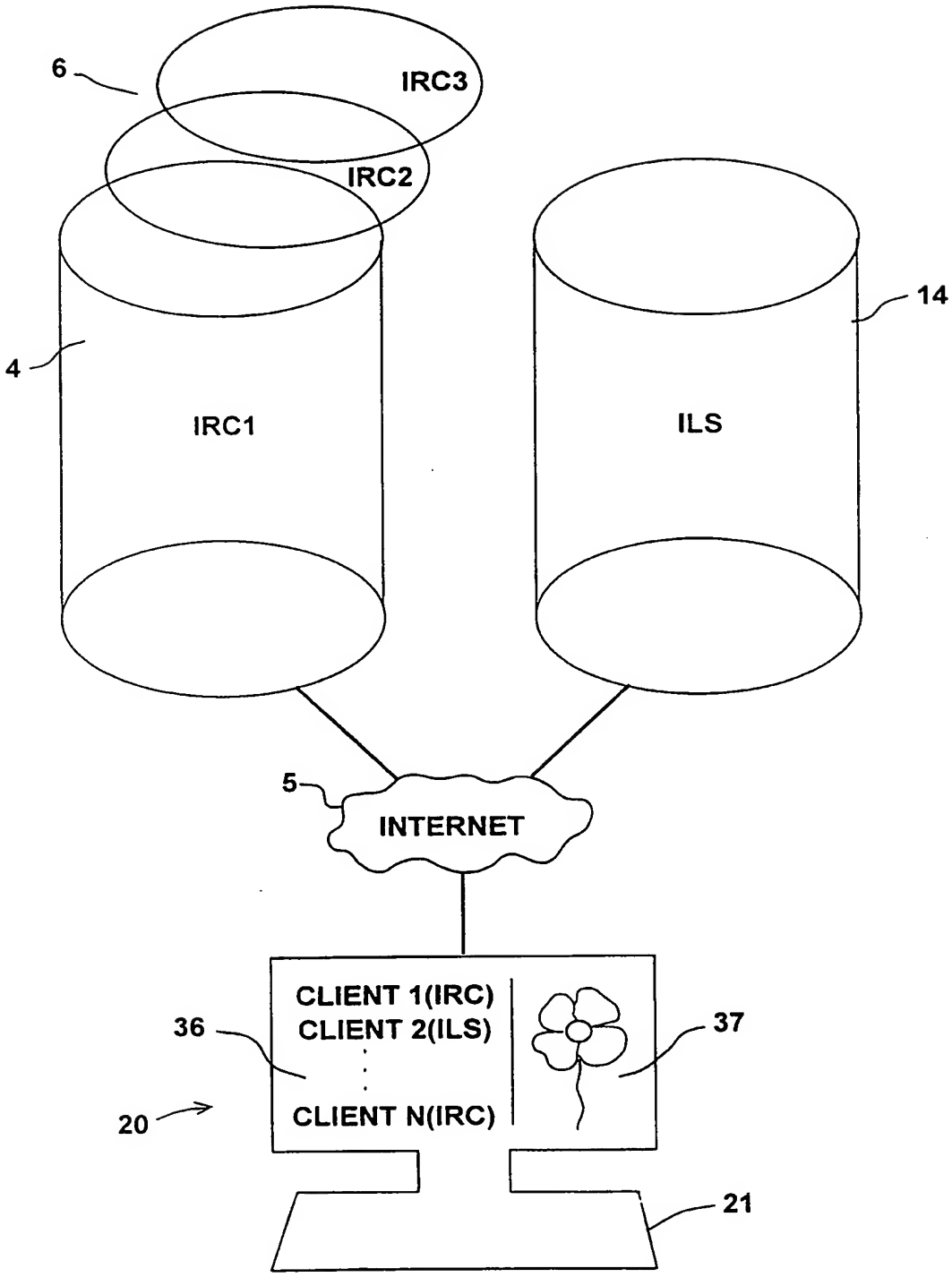

6
IRC3
IRC2
4
IRC1
ILS
14
5
INTERNET
CLIENT 1(IRC)
CLIENT 2(ILS)
CLIENT N(IRC)
36
37
20
21

FIG. 2A

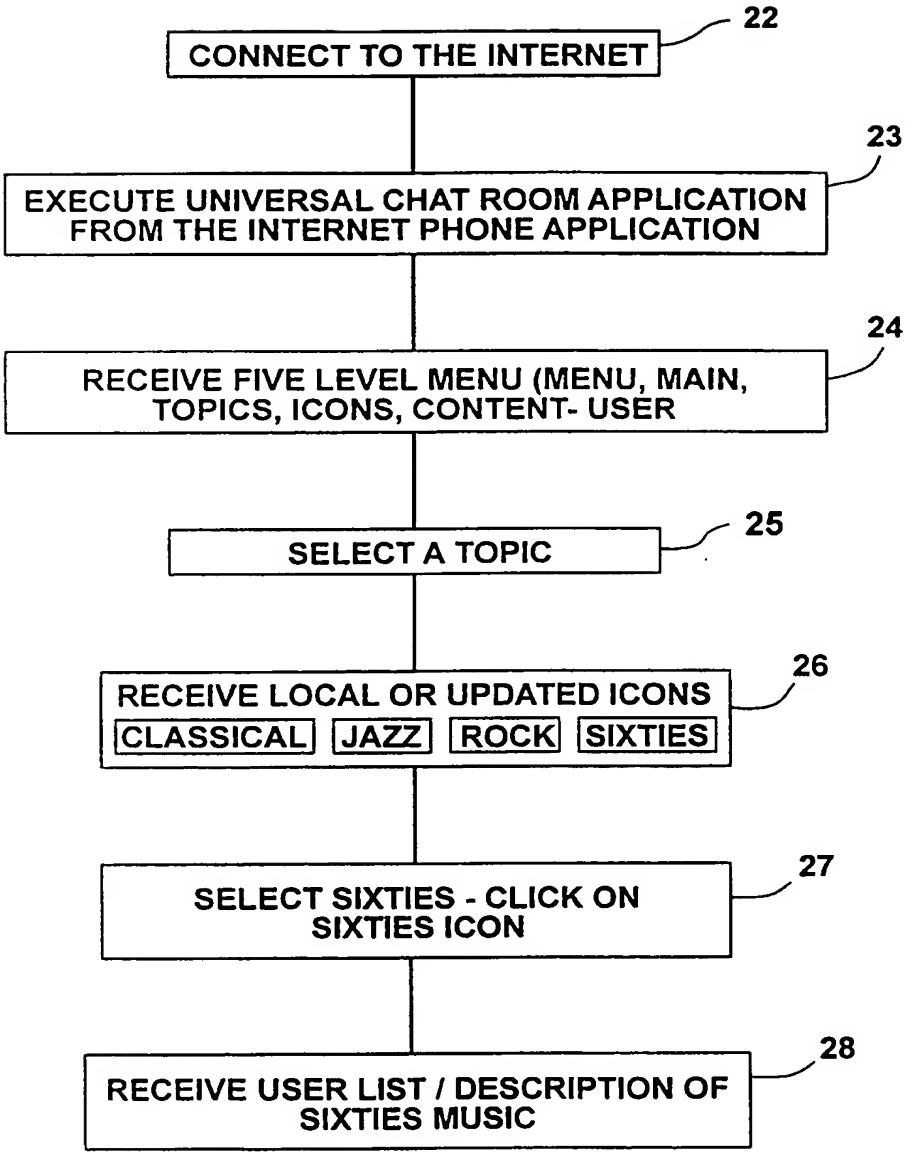

22
CONNECT TO THE INTERNET
23
EXECUTE UNIVERSAL CHAT ROOM APPLICATION FROM THE INTERNET PHONE APPLICATION
24
RECEIVE FIVE LEVEL MENU (MENU, MAIN, TOPICS, ICONS, CONTENT- USER
25
SELECT A TOPIC
26
RECEIVE LOCAL OR UPDATED ICONS
CLASSICAL
JAZZ
ROCK
SIXTIES
27
SELECT SIXTIES - CLICK ON SIXTIES ICON
28
RECEIVE USER LIST / DESCRIPTION OF SIXTIES MUSIC

FIG. 2B

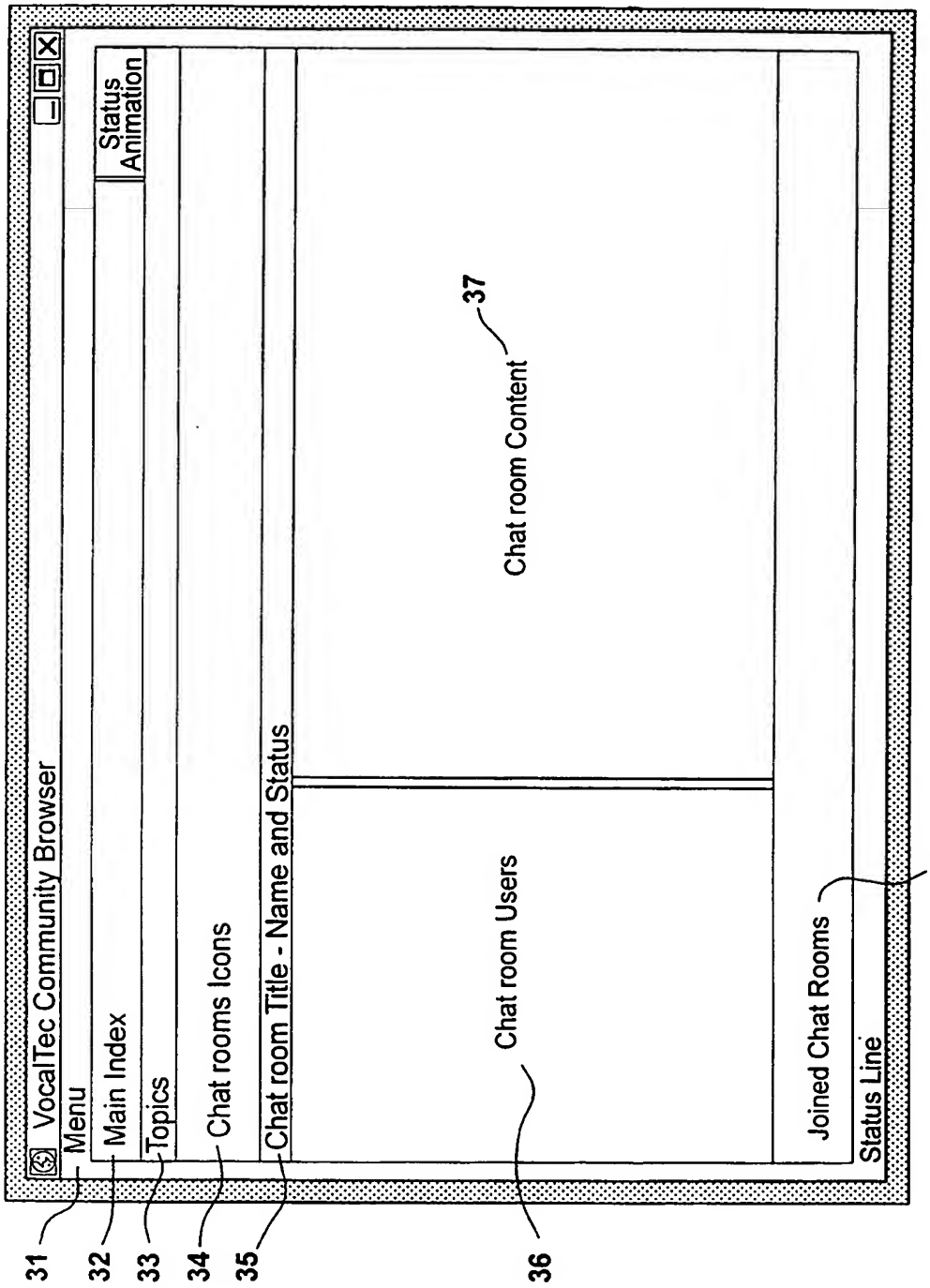

VocalTec Community Browser
Menu
Main Index
Topics
Chat rooms Icons
Chat room Title - Name and Status
Status Animation
Chat room Content
Chat room Users
Joined Chat Rooms
Status Line
31
32
33
34
35
36
37
38
Computer Screen

Fig. 3A

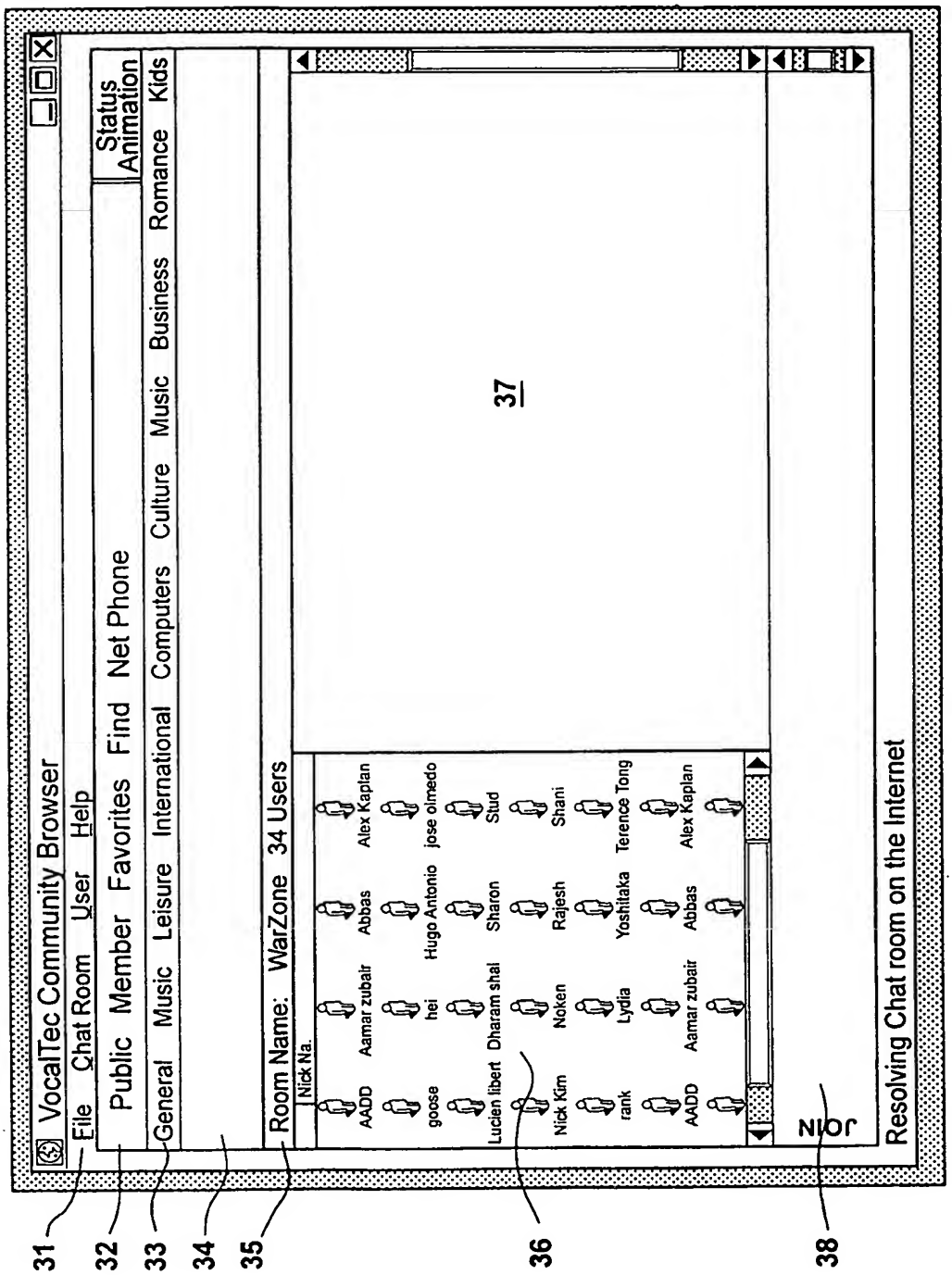
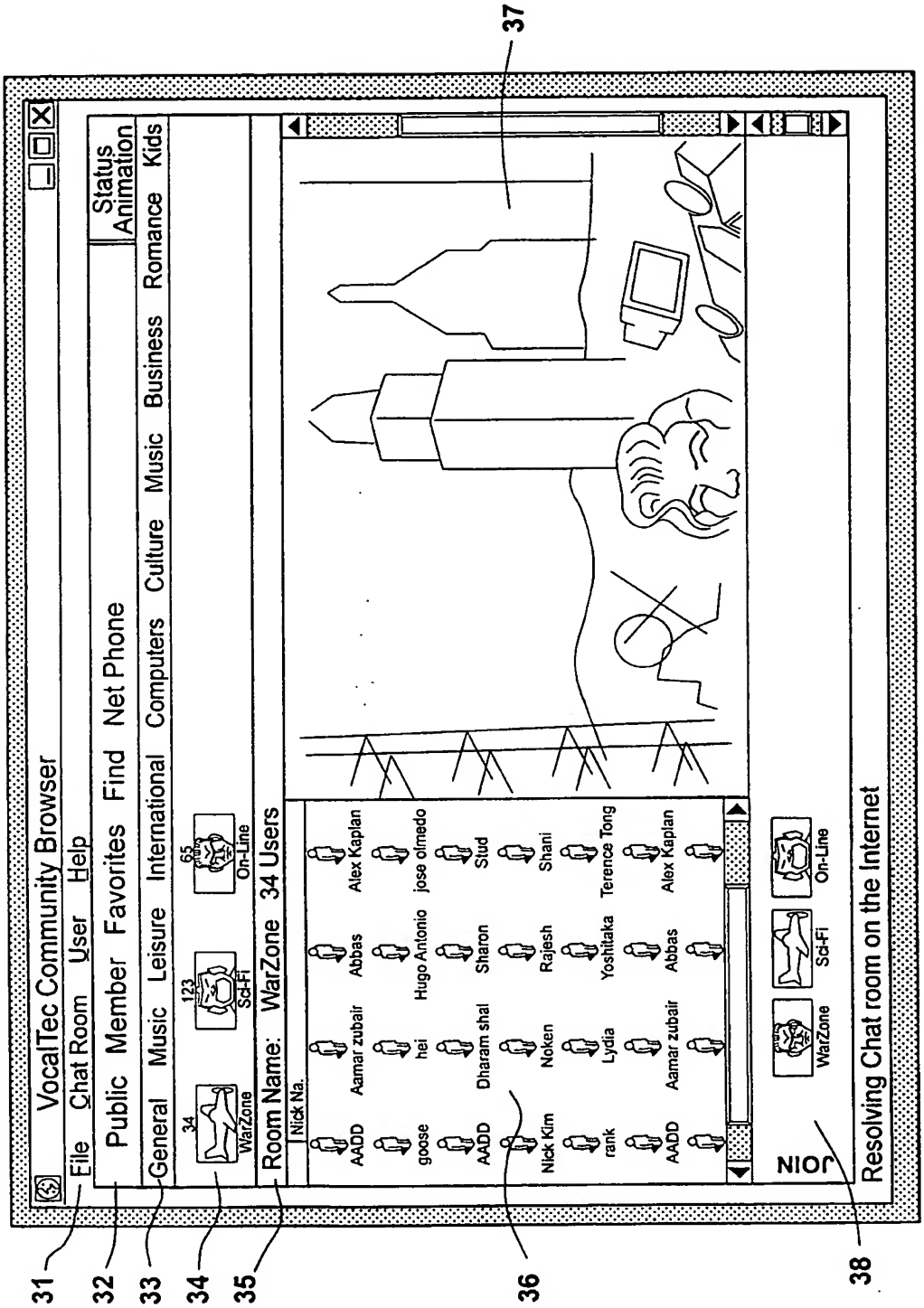

VocalTec Community Browser
File Chat Room User Help
Public Member Favorites Find Net Phone
Status Animation
General Music Leisure International Computers Culture Music Business Romance Kids
Room Name: WarZone 34 Users
Nick Na.
AADD
Aamar zubair
Abbas
Alex Kaplan
goose
hei
Hugo Antonio
jose olmedo
Lucien libert
Dharam shal
Sharon
Stud
Nick Kim
Noken
Rajesh
Shani
rank
Lydia
Yoshitaka
Terence Tong
AADD
Aamar zubair
Abbas
Alex Kaplan
JOIN
Resolving Chat room on the Internet
37
31
32
33
34
35
36
38
Computer Screen

Fig. 3B



Computer Screen

Fig. 3C

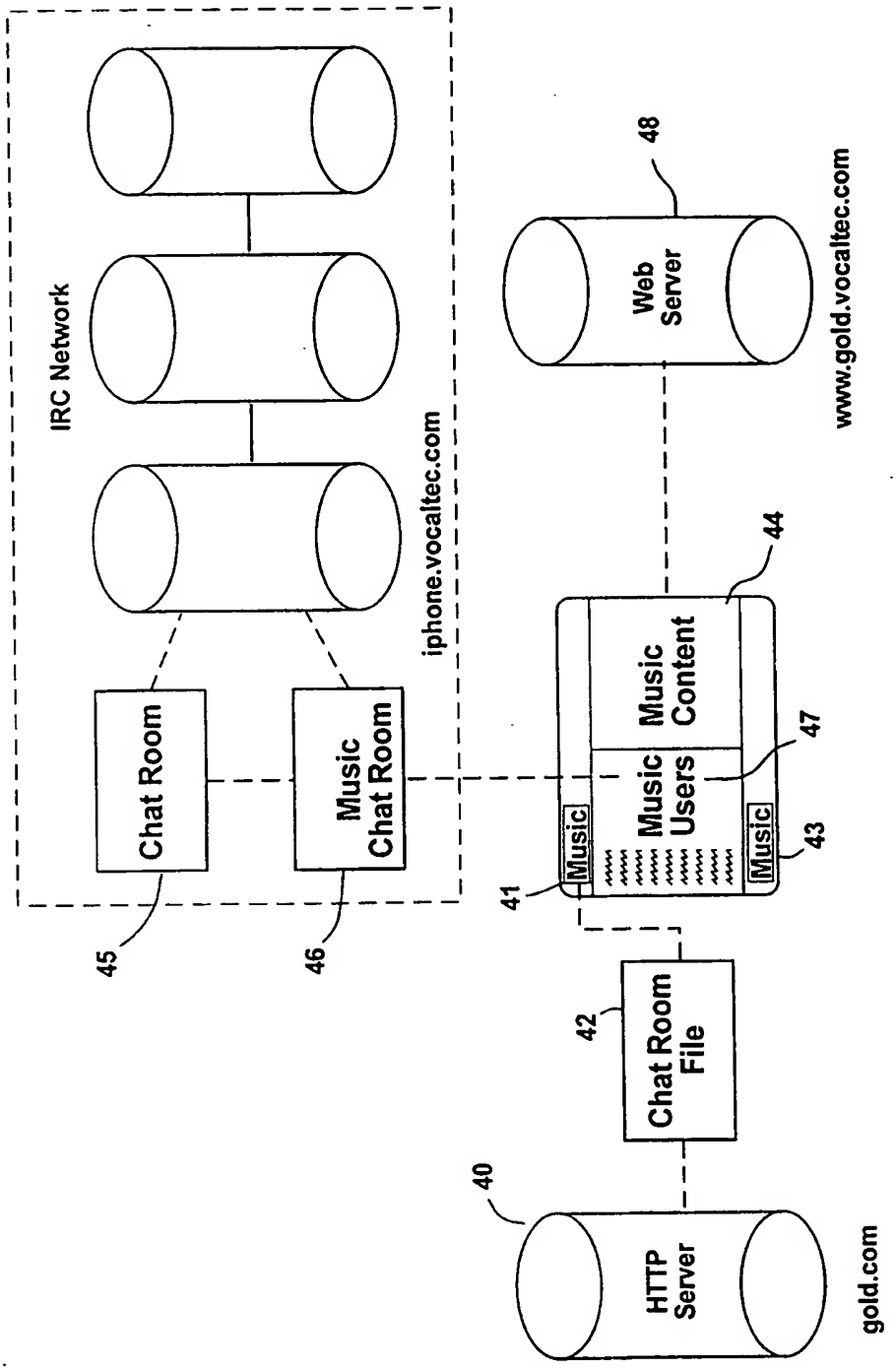

IRC Network
iphone.vocaltec.com
Chat Room
Music Chat Room
45
46
Web Server
48
www.gold.vocaltec.com
Music Content
44
Music Users
47
Music
Music
43
41
Chat Room File
42
HTTP Server
40
gold.com

Fig. 4A

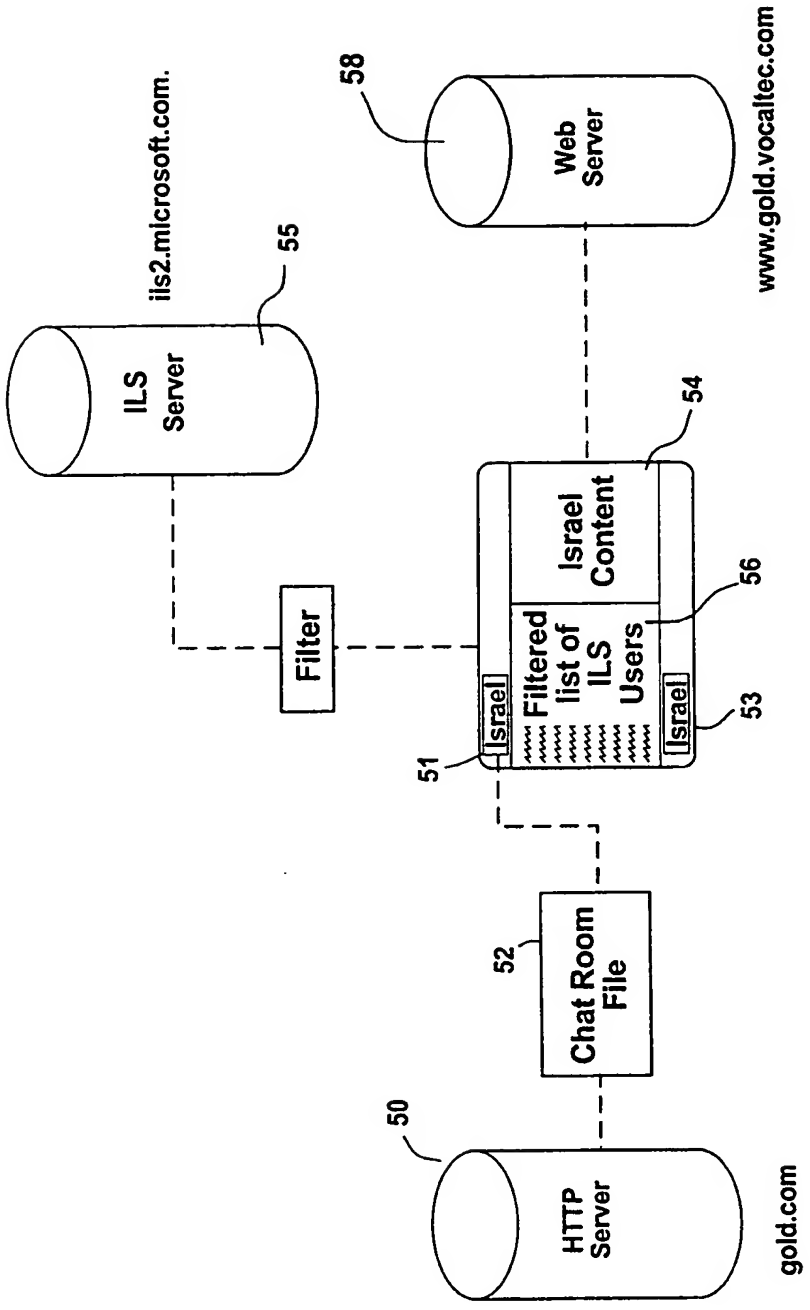

58
Web Server
www.gold.vocaltec.com
ils2.microsoft.com.
55
ILS Server
54
Israel Content
56
Filtered list of ILS Users
Israel
Israel
53
51
Filter
52
Chat Room File
50
HTTP Server
gold.com

Fig. 4B

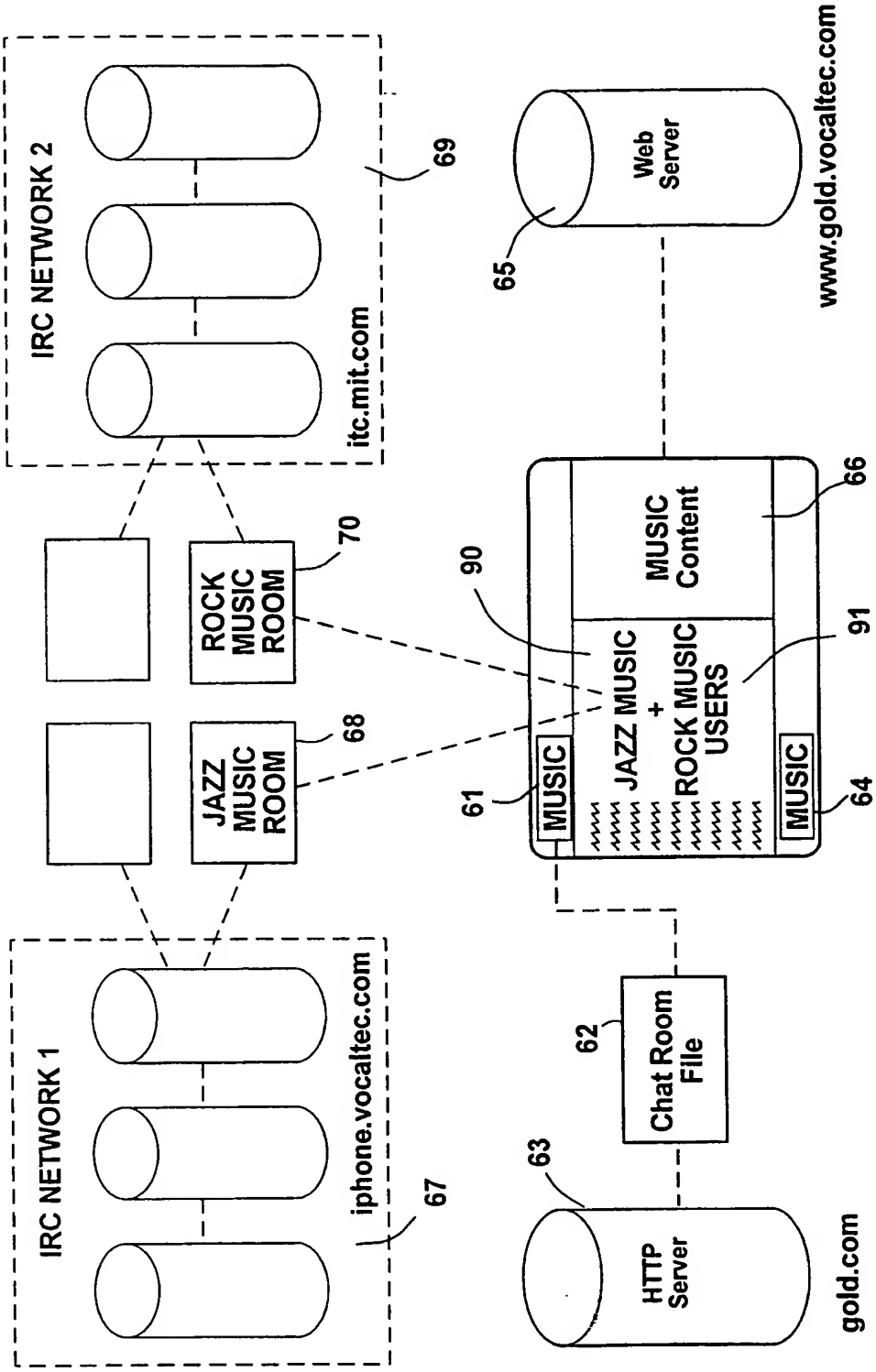

IRC NETWORK 2
itc.mit.com
69
Web Server
65
www.gold.vocaltec.com
MUSIC Content
66
ROCK MUSIC ROOM
70
90
JAZZ MUSIC + ROCK MUSIC USERS
91
JAZZ MUSIC ROOM
68
MUSIC
61
MUSIC
64
IRC NETWORK 1
iphone.vocaltec.com
67
62
Chat Room File
63
HTTP Server
gold.com

Fig. 4C

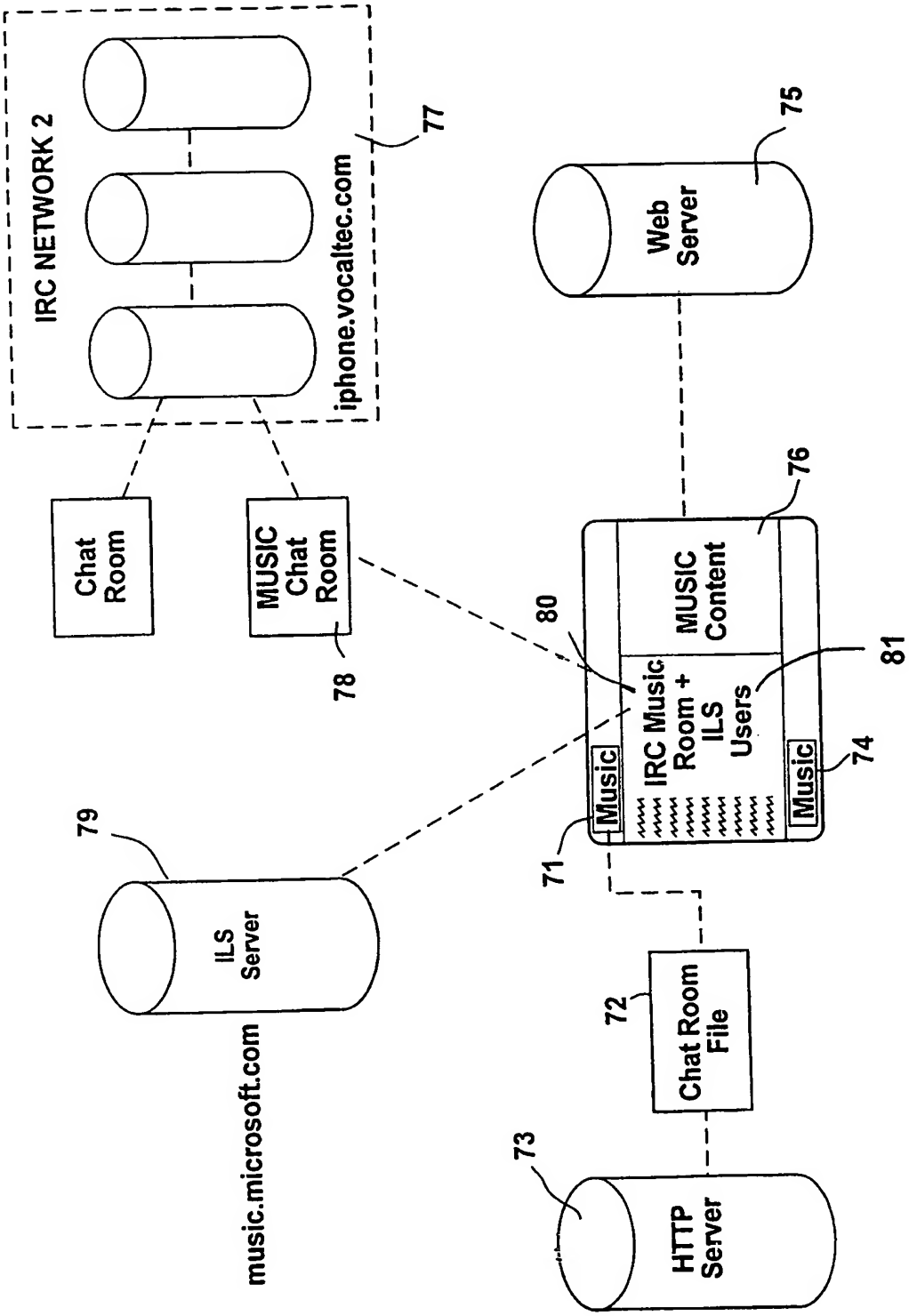

IRC NETWORK 2
iphone.vocaltec.com
77
Chat Room
MUSIC Chat Room
78
Web Server
75
MUSIC Content
76
80
IRC Music Room + ILS Users
81
Music
Music
74
71
79
ILS Server
music.microsoft.com
72
Chat Room File
73
HTTP Server

Fig. 4D

INTERNATIONAL SEARCH REPORT

International application No.
PCT/IL98/00313

A. CLASSIFICATION OF SUBJECT MATTER
IPC(6) : G06F 3/00, 13/00, 13/38, 15/163, 17/00, 19/00
US CL :Please See Extra Sheet.
According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 395/200.33-200.34, 200.47-200.49, 200.64, 500; 345/329-323

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

NONE

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

APS SEarch---> Search Terms : chat room, network or internet, client# or user#, server#

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y, E	US 5,796,395 A (DE HOND) 18 AUGUST 1998, SEE ABSTRACT, FIGURES 1 AND 3-5, COLUMN 1 LINE 64 TO COLUMN 2 LINE 43, COLUMN 3 LINE 33 TO COLUMN 8 LINE 57.	1-10
Y, E	US 5,794,006 A (SANDERMAN) 11 AUGUST 1998, SEE ABSTRACT, FIGURES 1-3 AND 7A, COLUMNS 5-10.	1-10
A, E	US 5,793,365 A (TANG ET AL) 11 AUGUST 1998.	1-10
A, E	US 5,784,568 A (NEEDHAM) 21 JULY 1998.	1-10

☐ Further documents are listed in the continuation of Box C. ☐ See patent family annex.

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"A"	document defining the general state of the art which is not considered to be of particular relevance	"X"	document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"E"	earlier document published on or after the international filing date	"Y"	document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"L"	document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"&"	document member of the same patent family
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"P"	document published prior to the international filing date but later than the priority date claimed		

Date of the actual completion of the international search
25 SEPTEMBER 1998

Date of mailing of the international search report
29 OCT 1998

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Form PCT/ISA/210 (second sheet)(July 1992)*

INTERNATIONAL SEARCH REPORT

International application No.
PCT/IL98/00313

A. CLASSIFICATION OF SUBJECT MATTER:
US CL :

395/200.33-200.34, 200.47-200.49, 200.64, 500;
345/329-323

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